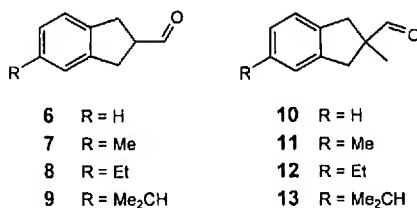
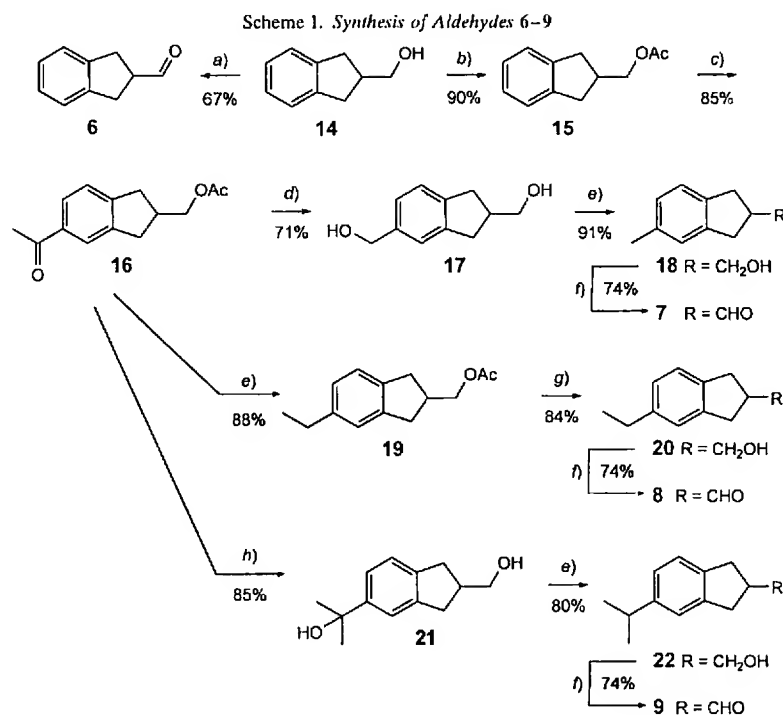


EXHIBIT C



ester was prepared from alcohol **14** by esterification to acetate **15** [4b] [5a] followed by *Friedel–Crafts* acylation, as shown in *Scheme 1*.

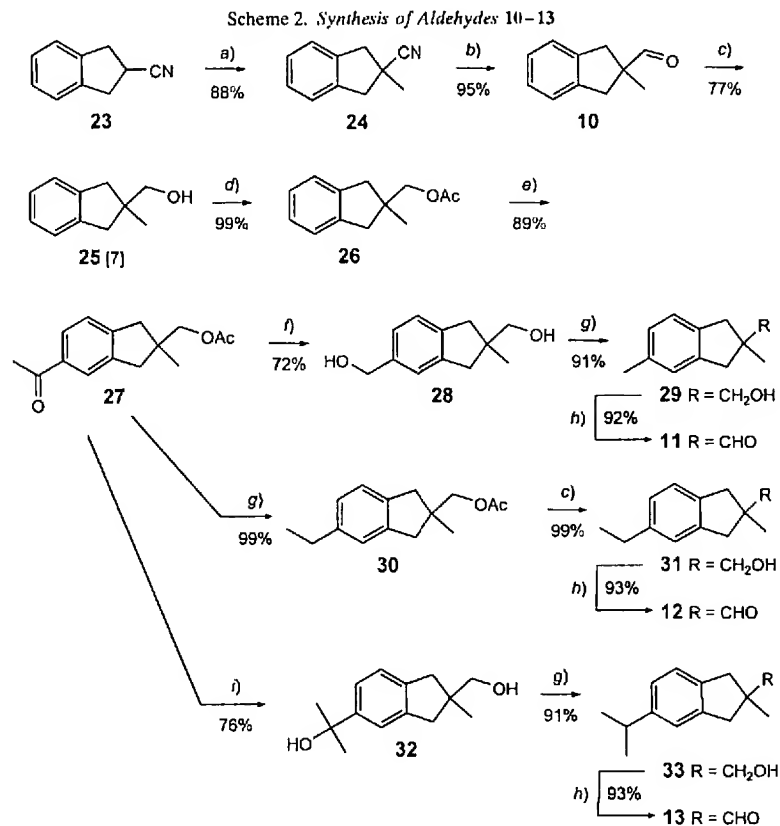
Compound **16** was subjected to the haloform reaction, followed by LiAlH₄ reduction to give diol **17**, which was hydrogenolyzed (\rightarrow **18**), and then oxidized with pyridinium chlorochromate (PCC) to aldehyde **7**. Next, **16** was hydrogenated to give ester **19**, which was reduced to alcohol **20** and oxidized with PCC to aldehyde **8**. Finally, *Grignard* reaction of **16** produced diol **21**, which, as above, was hydrogenolyzed (\rightarrow **22**) and oxidized to afford aldehyde **9**.



a) Pyridinium chlorochromate (PCC), CH₂Cl₂, r.t. b) Ac₂O, pyridine, r.t., 3.5 h. c) AcCl, AlCl₃, CH₂Cl₂, 0° \rightarrow r.t., 1 h. d) 1. NaOCl, H₂O, dioxane, 60°, 17 h; 2. LiAlH₄, THF, reflux, 16 h. e) H₂ (1 atm), 10% Pd/C, AcOEt, r.t., 16 h. f) PCC, CH₂Cl₂, r.t., 4 h. g) LiAlH₄, Et₂O, r.t., 1.5 h. h) MeMgCl, THF, r.t. \rightarrow 60°, 2 h.

Turning then to the series of 2-methylindane-2-carboxaldehydes **10–13**, the attempted alkylation of **6** gave **10** in only low yield and purity; aldehyde **10** was preferentially prepared in good yield by alkylation of nitrile **23** [**6**] (\rightarrow **24**), followed by reduction (*Scheme 2*). For the synthesis of aldehydes **11–13**, we applied the same principle as above, which allowed to use the keto ester **27** as a common intermediate. Thus, **10** was reduced to alcohol **25** [**7**], which was esterified (\rightarrow **26**) and acylated to afford **27**; from **27**, aldehydes **11–13** were synthesized *via* **28–33** in the same manner as above.

2.2. Olfactory Evaluation. The results of the olfactory evaluation of aldehydes **6–13** are given in *Table 1*, and those of the alcohol precursors are shown in *Table 2*. The unexpected result of this work was the powerful floral muguet (lily-of-the-valley)-type odor



a) Lithium diisopropylamide (LDA), MeI, THF, $-78^{\circ} \rightarrow$ r.t. $\rightarrow 50^{\circ}$, 1.5 h. *b*) Diisobutylaluminum hydride (DIBAL-H), toluene, r.t., 1.5 h. *c*) LiAlH₄, Et₂O, r.t., 15 h; *d*) Ac₂O, pyridine, r.t., 36 h. *e*) AcCl, AlCl₃, CH₂Cl₂, 0° , 1.5 h. *f*) 1. NaOCl, H₂O, dioxane, 60° , 16 h; 2. LiAlH₄, THF, reflux, 16 h. *g*) H₂ (1 atm), 10% Pd/C, AcOEt, r.t., 18 h. *h*) PCC, CH₂Cl₂, r.t., 3 h. *i*) MeMgCl, THF, r.t. $\rightarrow 60^{\circ}$, 1.5 h.

of the intermediate alcohol **29** [8] (see Table 2), noticed as soon as we isolated it¹⁾. Quickly, however, the structural parenthood of alcohol **29** with the floral odorant *Majantol*[®] (**34**) [9] was recognized. In fact, alcohol **29** can be considered as a conformationally restricted analogue of **34**, and the same relationship holds for alcohol **25** and the floral odorant **35**, known as 'muguet alcohol' [9b][10].

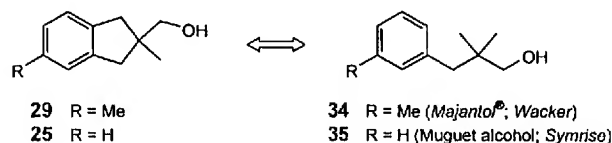


Table 1. Odor Description of Aldehydes 6–13. Excepting **6** and **10**, all compounds are racemates.

	Odor description
6	'Aldehydic, green, grassy, ozonic, slightly metallic, cuminic, very powerful, aggressive'
7	'Aldehydic, floral-muguet, soapy, fatty, slightly lemon'
8	'Aldehydic, metallic, muguet, citrus'
9	'Aldehydic, green, citrus, ozone, cyclamen aldehyde, metallic, <i>Bourgeonal</i> [®] , but weaker'
10	'Phenolic, aldehydic, green'
11	'Aldehydic, green, <i>Bourgeonal</i> [®] , slightly fatty, fertilizer'
12	'Aldehydic, metallic, fatty, perillic'
13	'Aldehydic, metallic, ozone, green, citrus'

Table 2. Odor Description of Precursor Alcohols 14, 18, 20, 22, 25, 29, 31, and 33. Excepting **14** and **25**, all compounds are racemates.

	Odor description
14	'Leather, old shoes, ammunition, fatty'
18	'Floral, phenolic, fatty'
20	'Odorless'
22	'Odorless'
25	'Floral, <i>Lilial</i> [®] , muguet, hydroxycitronellal'
29	' <i>Lilial</i> [®] , hydroxycitronellal, <i>Mayol</i> [®] , muguet'
31	'Vaguely floral, weak'
33	'Floral, linalool, very weak'

In conclusion, none of the initially targeted aldehydes had better olfactive properties than the already established odorants of this class, but the intermediate alcohol **29** revealed itself as a valuable new member in the family of floral muguet(lily-of-the-valley)-type odorants [11].

We gratefully acknowledge the collaboration of Mr. W. Thommen and Mr. R. Brauchli for the NMR analysis. We wish to thank Dr. P.-A. Blum for the evaluation of olfactory properties, and Dr. R. L. Snowden and Dr. C. Fehr for stimulating discussions.

¹⁾ See accompanying publication for an alternative synthesis of **29** and the characterization of the enantiomers of **29**.

Experimental Part

General. All reactions were performed under N₂. GLC: Hewlett-Packard 5890 or 6890 instrument equipped with a flame-ionization detector coupled to a Hewlett-Packard 3395 or 3396A integrator; capillary columns Chrompack CP-Wax-52 CB (10 m, 0.25 mm i.d.) and CP-Sil-5 CB (10 m, 0.25 mm i.d.). TLC: silica gel 60 F 254 (layer thickness 0.25 mm; Merck). Column chromatography (CC): silica gel 60 (0.063–0.2 mm, 70–270 mesh, ASTM; Merck). Bulb-to-bulb distillation: Büchi GKR-50 or GRK-51 oven; b.p. correspond to the air temp. IR Spectra (liquid film or solid): Perkin-Elmer 297 or 1600-FTIR spectrometers; $\tilde{\nu}$ in cm⁻¹. ¹H- and ¹³C-NMR Spectra (CDCl₃): Bruker AMX-360, DPX-400, or AV-500 spectrometers; δ in ppm downfield from SiMe₄, J in Hz. MS: HP 5972 or 5973 MSD (70 eV); in m/z (intensity in % rel. to the base peak (100%)).

1. **General Procedure A (G.P.A) for the Hydrogenolysis of Benzylic Alcohols.** To a soln. of the benzylic alcohol in AcOEt was added 10% Pd/C (ca. 0.02 equiv.), and the mixture was shaken under H₂ (1 atm) at r.t. until no more starting material was detected by GC (16–46 h). The catalyst was filtered off and the filtrate evaporated.

2. **General Procedure B (G.P.B) for the Oxidation of Alcohols to Aldehydes with Pyridinium Chlorochromate (PCC).** To a stirred suspension of PCC (1.5 equiv.) in CH₂Cl₂ at r.t. was added dropwise a soln. of the alcohol (1.0 equiv.) in CH₂Cl₂, and the mixture was stirred at r.t. during 3–5 h. The mixture was diluted with an excess of Et₂O, filtered through a short column of Florisil® (Acros Organics), and evaporated.

3. **Compounds 6–9.** Indane-2-carboxaldehyde (= 2,3-Dihydro-1H-indene-2-carboxaldehyde; 6). According to the G.P.B, indane-2-methanol (14; 3.20 g, purity 97%, 20.9 mmol) was converted to crude 6, to which was added 0.5% (w/w) BHT (= 2,6-di(*tert*-butyl)-4-methylphenol). Bulb-to-bulb distillation (oven temp. 50–60°/0.2 mbar) afforded 6 (2.10 g, 67%; purity 98%). Colorless oil. IR: 3050, 2910, 2840, 2710, 1720, 1480, 1450, 740. ¹H-NMR: 9.72 (*d*, J = 2, 1 H); 7.20 (*m*, 2 H); 7.13 (*m*, 2 H); 3.24 (*m*, 3 H); 3.15 (*m*, 2 H). ¹³C-NMR: 202.8 (*d*); 141.1 (2*s*); 126.8 (2*d*); 124.6 (2*d*); 50.6 (*d*); 32.9 (2*t*). MS: 146 (67, *M*⁺), 131 (16), 128 (18), 115 (100), 91 (26), 89 (14), 63 (15), 51 (9), 39 (12), 29 (8).

Indan-2-ylmethyl Acetate (= 2,3-Dihydro-1H-indene-2-methanol Acetate; 15). To a stirred soln. of indane-2-methanol (14; 3.29 g, 22 mmol) in pyridine (25 ml) at r.t. was added Ac₂O (25 ml), and the mixture was stirred at r.t. during 3.5 h. The mixture was evaporated and the residue co-evaporated 3× from toluene. Bulb-to-bulb distillation (oven temp. 90–100°/0.8 mbar) gave 15 (3.98 g, 90%; purity 95%). Colorless oil. IR: 3015, 2940, 2835, 1730, 1360, 1235, 1040, 745. ¹H-NMR: 7.16 (*m*, 4 H); 4.10 (*d*, J = 7, 2 H); 3.07 (*dd*, J = 15, 8, 2 H); 2.80 (*m*, 1 H); 2.73 (*dd*, J = 15, 7, 2 H); 2.06 (*s*, 3 H). ¹³C-NMR: 171.2 (*s*); 142.3 (2*s*); 126.4 (2*d*); 124.6 (2*d*); 67.6 (*t*); 38.2 (*d*); 39.9 (*t*); 20.9 (*q*). MS: 190 (1, *M*⁺), 130 (100), 129 (67), 115 (64), 91 (12), 77 (4), 63 (5), 51 (4), 43 (34), 39 (6).

(±)-1-(5-Acetyl-indan-2-yl)methyl Acetate (= (±)-1-[2-(Acetyloxy)methyl]-2,3-dihydro-1H-indene-5-yl-ethanone; 16). To a stirred suspension of AlCl₃ (18.7 g, 140 mmol) in CH₂Cl₂ (80 ml) at 20° was added dropwise AcCl (9.9 ml, 140 mmol), and the mixture was stirred at 20° during 1.5 h. The mixture was cooled to 0°, and a soln. of 15 (5.28 g, 27 mmol) in CH₂Cl₂ (15 ml) was added dropwise. The mixture was stirred at 0–4° during 1 h and poured on CH₂Cl₂/ice/brine. The org. phase was washed with brine (2×), sat. aq. NaHCO₃ soln., and brine, dried (Na₂SO₄), and evaporated to a yellow oil (6.3 g). Bulb-to-bulb distillation (oven temp. 150°/0.4 mbar) gave 16 (5.83 g, 85%; purity 93%). Yellow oil. IR: 2940, 2830, 1730, 1670, 1600, 1420, 1360, 1235, 1035, 820. ¹H-NMR: 7.80 (*d*, J = 1, 1 H); 7.77 (*dd*, J = 8, 1, 1 H); 7.27 (*d*, J = 8, 1 H); 4.10 (*d*, J = 7, 1 H); 3.12 (*dd*, J = 15, 8, 2 H); 2.86 (*m*, 1 H); 2.78 (*dd*, J = 15, 7, 2 H); 2.57 (*s*, 3 H); 2.06 (*s*, 3 H). ¹³C-NMR: 198.0 (*s*); 171.1 (*s*); 148.3 (*s*); 143.0 (*s*); 136.1 (*s*); 127.2 (*d*); 124.6 (*d*); 124.5 (*d*); 67.2 (*t*); 38.3 (*d*); 36.0 (*t*); 35.6 (*t*); 26.7 (*q*); 20.9 (*q*). MS: 232 (1, *M*⁺), 217 (3), 172 (37), 157 (100), 129 (28), 115 (18), 89 (3), 77 (3), 63 (4), 51 (3), 43 (63).

(±)-Indane-2,5-dimethanol (= (±)-2,3-Dihydro-1H-indene-2,5-dimethanol; 17). Bleach (13–14% NaOCl in H₂O; 21.5 ml, 37.5 mmol) was heated to 55°, and a soln. of 16 (2.91 g, purity 95%, 12.5 mmol) in dioxane (22 ml) was added dropwise during 5 min (slightly exothermic; temp. → 70°), and the mixture was heated to 70° during 17 h. The cooled mixture was poured on Et₂O/sat. aq. NaHSO₃ soln. and H₂O. The aq. phase was acidified with 10% aq. HCl soln. and extracted with Et₂O. This org. phase was washed with brine (3×), dried (Na₂SO₄), and evaporated to a viscous yellow oil (3.459 g), containing the acid. A soln. of this crude product in THF (50 ml) was added to a stirred suspension of LiAlH₄ (1.75 g, 46 mmol) in THF (30 ml) at r.t. (exothermic; temp. → 53°). After 15 h at r.t., the mixture was poured on Et₂O/10% aq. NaOH soln. The org. phase was washed with sat. aq. NaHCO₃ soln., dried (Na₂SO₄), and evaporated to a solid (2.23 g, 71%; purity 71%). Three crystallizations from AcOEt at 0° afforded pure 17. Colorless crystals. M.p. 115.5°. IR (solid): 3352, 3275, 2942, 2905, 2847, 1437, 1359, 1071, 1043, 1021, 821. ¹H-NMR (CD₃OD): 7.16 (br. *s*, 1 H); 7.12 (*d*, J = 8, 1 H); 7.07 (*d*, J = 8, 1 H); 4.87 (*s*, 2 OH); 4.53 (*s*, 2 H); 3.51 (*d*, J = 7, 2 H); 2.98 (*m*, 2 H); 2.70 (*m*, 1 H); 2.62 (*m*, 2 H). ¹³C-NMR

(CD₃OD): 144.2 (s); 143.1 (s); 140.7 (s); 126.4 (d); 125.3 (d); 124.4 (d); 66.6 (t); 65.4 (t); 43.0 (d); 36.6 (t); 36.4 (t). MS: 178 (52, M⁺), 160 (13), 145 (12), 142 (17), 129 (100), 115 (60), 91 (38), 77 (13), 65 (9), 63 (9), 51 (9), 39 (11), 31 (29).

(±)-5-Methylindane-2-methanol (= (±)-2,3-Dihydro-5-methyl-1H-indene-2-methanol; 18). According to the G.P.A. with 17 (0.9 g, 5 mmol). Bulb-to-bulb distillation (oven temp. → 170°/0.3 mbar) followed by crystallization from pentane at 0° gave 18 (0.64 g, 79%). Colorless crystals. M.p. 41–41.5°. IR: 3580, 2980, 2910, 1485, 1430, 1025, 995, 810. ¹H-NMR: 7.08 (d, J = 8, 1 H); 7.01 (br. s, 1 H); 6.94 (br. d, 1 H); 3.62 (d, J = 7, 2 H); 3.01 (dd, J = 17, 10, 2 H); 2.68 (m, 3 H); 2.30 (s, 3 H); 1.86 (br. s, OH). ¹³C-NMR: 142.8 (s); 139.6 (s); 135.8 (s); 127.0 (d); 125.3 (d); 124.3 (d); 66.5 (t); 41.6 (d); 35.7 (t); 21.2 (q). MS: 162 (34, M⁺), 144 (26), 129 (100), 115 (29), 91 (16), 77 (8), 65 (4), 63 (6), 51 (7), 39 (7), 31 (15).

(±)-5-Methylindane-2-carboxaldehyde (= (±)-2,3-Dihydro-5-methyl-1H-indene-2-carboxaldehyde; 7). According to the G.P.B. with 18 (0.30 g, 1.9 mmol). Bulb-to-bulb distillation (oven temp. 75°/0.15 mbar) afforded 7 (0.24 g, 77%; purity 97%). Colorless liquid. IR: 3000, 2840, 2700, 1715, 1485, 1430, 805. ¹H-NMR: 9.75 (d, J = 2, 1 H); 7.11 (d, J = 8, 1 H); 7.05 (br. s, 1 H); 6.97 (br. d, J = 8, 1 H); 3.24 (m, 3 H); 3.13 (m, 2 H); 2.31 (s, 3 H). ¹³C-NMR: 203.0 (d); 141.3 (s); 138.0 (s); 136.5 (s); 127.6 (d); 125.3 (d); 124.3 (d); 50.9 (d); 32.8 (t); 32.6 (t); 21.2 (q). MS: 160 (100, M⁺), 145 (72), 130 (34), 115 (98), 91 (39), 77 (23), 65 (13), 63 (19), 51 (25), 39 (24), 29 (40).

(±)-5-Ethylindane-2-yl)methyl Acetate (= (±)-5-Ethyl-2,3-dihydro-1H-indene-2-methanol Acetate; 19). According to the G.P.A. with 16. Bulb-to-bulb distillation (oven temp. 180°/0.1 mbar) gave 19 (1.70 g, 88%; purity 94%). Colorless oil. IR: 3000, 2960, 2930, 2840, 1730, 1485, 1435, 1360, 1235, 1035, 820. ¹H-NMR: 7.10 (d, J = 8, 1 H); 7.04 (br. s, 1 H); 6.97 (br. d, J = 8, 1 H); 4.10 (d, J = 7, 2 H); 3.03 (m, 2 H); 2.80 (m, 1 H); 2.70 (m, 2 H); 2.60 (q, J = 8, 2 H); 2.06 (s, 3 H); 1.22 (t, J = 8, 3 H). ¹³C-NMR: 171.2 (s); 142.6 (s); 142.5 (s); 139.5 (s); 126.1 (d); 124.4 (d); 124.1 (d); 67.7 (t); 38.4 (d); 35.9 (t); 35.6 (t); 28.7 (t); 20.9 (q); 16.0 (q). MS: 218 (6, M⁺), 158 (45), 143 (56), 129 (100), 115 (31), 91 (8), 77 (5), 65 (3), 63 (3), 51 (3), 43 (32), 39 (4).

(±)-5-Ethylindane-2-methanol (= (±)-5-Ethyl-2,3-dihydro-1H-indene-2-methanol; 20). To a stirred suspension of LiAlH₄ (0.43 g, 11.3 mmol) in Et₂O (10 ml) at r.t. was added dropwise a soln. of 19 (1.65 g, purity 94%, 7.5 mmol) in Et₂O (15 ml), and the mixture was stirred at r.t. during 1.5 h. The mixture was cooled to 0°, 10% aq. NaOH soln. (2.5 ml) was added carefully, and the mixture was stirred during 1 h (→ r.t.). Na₂SO₄ was added and the mixture filtered and evaporated (1.26 g). Bulb-to-bulb distillation (oven temp. → 205°/0.1 mbar) gave 20 (1.19 g, 84%; purity > 99%). Colorless oil. IR: 3320 (br.), 3000, 2960, 2920, 2860, 1485, 1430, 1035, 815. ¹H-NMR: 7.10 (d, J = 8, 1 H); 7.04 (br. s, 1 H); 6.97 (br. d, J = 8, 1 H); 3.63 (d, J = 7, 2 H); 3.02 (m, 2 H); 2.69 (m, 3 H); 2.60 (q, J = 8, 2 H); 1.94 (br. s, OH); 1.21 (t, J = 8, 3 H). ¹³C-NMR: 142.9 (s); 142.5 (s); 139.9 (s); 125.9 (d); 124.4 (d); 124.1 (d); 66.6 (t); 6 (s); 41.6 (d); 35.7 (t); 35.4 (t); 28.7 (t); 16.0 (q). MS: 176 (39, M⁺), 158 (15), 143 (67), 129 (100), 115 (34), 91 (12), 77 (7), 65 (4), 63 (5), 51 (5), 39 (5), 31 (10).

(±)-5-Ethylindane-2-carboxaldehyde (= (±)-5-Ethyl-2,3-dihydro-1H-indene-2-carboxaldehyde; 8). According to G.P.B. with 20 (1.12 g, 6.4 mmol). Bulb-to-bulb distillation (oven temp. → 95°/0.2 mbar) gave 8 (0.85 g, 74%; purity 97%). Colorless oil. IR: 3000, 2960, 2840, 2700, 1715, 1485, 1435, 820. ¹H-NMR: 9.74 (d, J = 2, 1 H); 7.13 (d, J = 8, 1 H); 7.07 (br. s, 1 H); 6.99 (br. d, J = 8, 1 H); 3.24 (m, 3 H); 3.13 (m, 2 H); 2.60 (q, J = 8, 2 H); 1.21 (t, J = 8, 3 H). ¹³C-NMR: 203.0 (d); 143.1 (s); 141.3 (s); 138.3 (s); 126.5 (d); 124.4 (d); 124.1 (d); 50.9 (d); 32.9 (t); 32.6 (t); 28.7 (t); 15.9 (q). MS: 174 (71, M⁺), 159 (19), 156 (5), 145 (100), 141 (19), 129 (80), 117 (45), 115 (58), 91 (18), 77 (11), 65 (8), 63 (10), 51 (9), 39 (9), 29 (13).

(±)-2-[2-(11-hydroxymethyl)indan-5-yl]propan-2-ol (= (±)-2,3-Dihydro-α⁵,α⁵-dimethyl-1H-indene-2,5-dimethanol; 21). A stirred 22% MeMgCl soln. in THF (16.7 g, 46 mmol; Fluka) at r.t. was diluted with THF (50 ml), and a soln. of 16 (2.92 g, purity 92%, 11.6 mmol) in THF (20 ml) was added dropwise during 5 min (exothermic: temp. → 44°). The mixture was heated to 60° during 2 h, then cooled, and poured into Et₂O/sat. aq. NH₄Cl soln./ice. The org. phase was washed with sat. aq. NaHCO₃ soln. and brine (2×), dried (Na₂SO₄), and evaporated (3.14 g). Bulb-to-bulb distillation (oven temp. → 200°/0.1 mbar) afforded a major fraction (1.76 g, 85%) containing 85% of 21 and 15% of monodehydrated product. IR: 3570, 3400, 2960, 2920, 1430, 1360, 1315, 1160, 1105, 1025, 950, 830. ¹H-NMR: 7.32 (br. s, 1 H); 7.24 (br. d, J = 8, 1 H); 7.13 (d, J = 8, 1 H); 3.61 (d, J = 7, 2 H); 3.02 (m, 2 H); 2.69 (m, 3 H); 2.22 (br. s, OH); 1.55 (s, 6 H). ¹³C-NMR: 147.5 (s); 142.8 (s); 141.1 (s); 124.2 (d); 122.5 (d); 120.7 (d); 72.4 (s); 66.3 (t); 41.6 (d); 35.8 (t); 35.3 (t); 31.8 (2q). MS: 206 (16, M⁺), 191 (85), 173 (9), 131 (27), 115 (22), 91 (10), 77 (5), 59 (8), 43 (100), 31 (10).

(±)-5-Isopropylindane-2-methanol (= (±)-2,3-Dihydro-5-isopropyl-1H-indene-2-methanol; 22). According to the G.P.A. with 21 (containing monodehydrated product; 1.90 g, 9.2 mmol). Bulb-to-bulb distillation (oven temp. → 140°/0.3 mbar) afforded 22 (1.44 g, 80%; purity 99%). Colorless oil. IR: 3320 (br.), 2960, 2920, 2860, 1485, 1455, 1430, 1030, 815. ¹H-NMR: 7.11 (d, J = 8, 1 H); 7.07 (br. s, 1 H); 7.00 (br. d, J = 8, 1 H); 3.64 (d,

$J = 7, 2$ H); 3.03 (m, 2 H); 2.87 (sept., $J = 7, 1$ H); 2.69 (m, 3 H); 1.86 (br. s, OH); 1.23 (d, $J = 7, 6$ H). $^{13}\text{C-NMR}$: 147.2 (s); 142.8 (s); 140.1 (s); 124.4 (d); 122.6 (d); 66.5 (d); 41.6 (d); 35.8 (t); 34.0 (d); 24.2 (2q). MS: 190 (42, M^+), 175 (45), 157 (100), 142 (25), 129 (71), 115 (40), 91 (15), 77 (7), 65 (5), 63 (5), 51 (5), 43 (10), 31 (23).

(\pm)-5-Isopropylindane-2-carboxaldehyde (= (\pm)-2,3-Dihydro-5-isopropyl-1H-indene-2-carboxaldehyde; 9). According to the G.P.B. with 22 (1.44 g, purity 99%, 7.5 mmol). Bulb-to-bulb distillation (oven temp. $\rightarrow 130^\circ/0.2$ mbar) gave 9 (1.09 g, 74%; purity 96%). Colorless oil. IR: 2950, 2920, 2870, 2700, 1715, 1480, 1430, 1375, 1050, 820. $^1\text{H-NMR}$: 9.74 (d, $J = 2, 1$ H); 7.14 (d, $J = 8, 1$ H); 7.09 (br. s, 1 H); 7.03 (br. d, $J = 8, 1$ H); 3.25 (m, 3 H); 3.14 (m, 2 H); 1.87 (sept., $J = 7, 1$ H); 1.23 (d, $J = 7, 6$ H). $^{13}\text{C-NMR}$: 203.0 (d); 147.8 (s); 141.3 (s); 138.5 (s); 125.1 (d); 124.4 (d); 122.5 (d); 50.9 (d); 34.0 (d); 32.9 (t); 32.6 (t); 24.2 (2q). MS: 188 (92, M^+), 173 (88), 155 (43), 145 (100), 143 (70), 128 (80), 115 (78), 91 (28), 77 (14), 65 (12), 63 (13), 39 (18), 29 (21).

4. Compounds 10–13. 2-Methylindane-2-carbonitrile (= 2,3-Dihydro-2-methyl-1H-indene-2-carbonitrile; 24). To 1.6M BuLi in hexane (58 ml, 93 mmol; *Fluka pract.*) in THF (40 ml) at -78° was added dropwise within 5 min Pr_2NH (12.5 ml, 88 mmol) and the mixture was stirred at -78° during 30 min. A soln. of indane-2-carbonitrile (= 2,3-dihydro-1H-indene-2-carbonitrile; 23; 6.32 g, 44 mmol) in THF (50 ml) was added dropwise within 5 min, and the mixture was stirred at -78° during 1.5 h. The mixture was allowed to warm up to -40° , and MeI (4.2 ml, 66 mmol; *Fluka purum*) was added dropwise. The mixture was stirred during 1 h ($-40^\circ \rightarrow -10^\circ$) and then poured on $\text{Et}_2\text{O}/\text{H}_2\text{O}/\text{ice}$. The org. phase was washed with 10% aq. HCl soln., H_2O , sat. aq. NaHCO_3 soln., and brine, dried (Na_2SO_4), and evaporated to a yellow liquid (7.25 g). Two bulb-to-bulb distillations (oven temp. $40\text{--}65^\circ/0.3$ mbar) afforded a product which solidified on standing: 24 (6.14 g, 83%; purity 94%). Crystallization from pentane at 0° gave an anal. sample. Colorless crystals. M.p. $60\text{--}60.5^\circ$. IR: 2960, 2930, 2840, 2230, 1480, 1450, 1430, 1375. $^1\text{H-NMR}$: 7.20 (s, 4 H); 3.47 (d, $J = 16, 2$ H); 3.00 (d, $J = 16, 2$ H); 1.50 (s, 3 H). $^{13}\text{C-NMR}$: 139.3 (2s); 127.3 (2d); 125.4 (s); 124.7 (2d); 45.5 (2t); 36.9 (s); 25.2 (q). MS: 157 (100, M^+), 142 (75), 130 (73), 115 (79), 105 (10), 103 (10), 89 (18), 77 (16), 63 (22), 51 (19), 39 (18).

2-Methylindane-2-carboxaldehyde (= 2,3-Dihydro-2-methyl-1H-indene-2-carboxaldehyde; 10). To a stirred soln. of 24 (17.7 g, 110 mmol) in toluene (100 ml) at r.t. was added dropwise during 25 min 1.5M DIBAL-H in toluene (120 ml, 180 mmol; *Aldrich*), while maintaining the temp. at 25° with a water bath. After 1 h at r.t., the mixture was poured slowly into $\text{Et}_2\text{O}/10\%$ aq. HCl soln./ice. The org. phase was washed with brine, sat. aq. NaHCO_3 soln., and brine, dried (Na_2SO_4), and evaporated to a yellow liquid (16.8 g, 95%; purity 99%). Bulb-to-bulb distillation (oven temp. $55\text{--}100^\circ/1.0$ mbar) gave 10. Colorless liquid. IR: 2960, 2920, 2830, 2700, 1720, 1475, 1450, 1425, 745. $^1\text{H-NMR}$: 7.16 (m, 4 H); 3.34 (d, $J = 16, 2$ H); 2.74 (d, $J = 16, 2$ H); 1.28 (s, 3 H). $^{13}\text{C-NMR}$: 203.9 (d); 140.9 (2s); 126.8 (2d); 124.7 (2d); 54.2 (s); 40.8 (2t); 20.9 (q). MS: 160 (42, M^+), 145 (100), 131 (33), 115 (48), 91 (44), 77 (11), 65 (8), 63 (10), 51 (9), 39 (8).

2-Methylindane-2-methanol (= 2,3-Dihydro-2-methyl-1H-indene-2-methanol; 25). To a stirred suspension of LiAlH_4 (3.80 g, 100 mmol) in Et_2O (50 ml) at r.t. was added during 15 min a soln. of 10 (16.8 g, purity 92%, 100 mmol) in Et_2O (100 ml). After 1 h at r.t., the mixture was cooled to 4° , and 10% aq. NaOH soln. (19 ml) was added carefully. The mixture was stirred at r.t. during 1.5 h, Na_2SO_4 was added, and the mixture was filtered and evaporated to a colorless liquid which solidified on standing (13.7 g). Crystallization from pentane at 0° gave 25 (13.4 g, 77%; purity 94%). Colorless crystals. M.p. $47\text{--}47.5^\circ$. IR: 3350 (br.), 2920, 1450, 1035, 740. $^1\text{H-NMR}$ (360 MHz, CDCl_3): 7.14 (m, 4 H); 3.48 (s, 2 H); 2.90 (d, $J = 16, 2$ H); 2.63 (d, $J = 16, 2$ H); 2.04 (br., OH); 1.16 (s, 3 H). $^{13}\text{C-NMR}$ (90.5 MHz, CDCl_3): 142.5 (2s); 126.2 (2d); 124.8 (2d); 70.3 (t); 44.9 (s); 42.7 (2t); 24.0 (q). MS: 162 (25, M^+), 144 (12), 129 (100), 115 (25), 104 (10), 91 (21), 77 (8), 63 (6), 51 (6), 39 (6), 31 (7).

(2-Methylindan-2-yl)methyl Acetate (= 2,3-Dihydro-2-methyl-1H-indene-2-methanol Acetate; 26). To a stirred soln. of 25 (13.7 g, purity 96%, 79.6 mmol) in pyridine (50 ml) at r.t. was added Ac_2O (50 ml), and the mixture was stirred at r.t. during 1.5 h. The mixture was evaporated, co-evaporated 3 \times from toluene (17.5 g), and bulb-to-bulb distilled (oven temp. $70\text{--}95^\circ/0.3$ mbar): 26 (16.2, 49%; purity $>99\%$). Colorless oil. IR: 2950, 2920, 2830, 1730, 1450, 1365, 1235, 1040, 740. $^1\text{H-NMR}$: 7.14 (m, 4 H); 2.93 (d, $J = 16, 2$ H); 2.18 (d, $J = 16, 2$ H); 2.04 (s, 2 H); 1.17 (s, 3 H). $^{13}\text{C-NMR}$: 171.3 (s); 142.1 (2s); 126.3 (2d); 124.8 (2d); 71.3 (t); 43.2 (s); 43.1 (2t); 24.3 (q); 20.9 (q). MS: 204 (1, M^+), 144 (36), 129 (100), 115 (16), 91 (10), 77 (4), 63 (3), 51 (3), 43 (21), 39 (3).

(\pm)-(5-Acetyl-2-methylindan-2-yl)methyl Acetate (= (\pm)-1-[2-(Acetyloxy)methyl]-2,3-dihydro-2-methyl-1H-inden-5-yl]ethanone; 27). To a stirred suspension of AlCl_3 (53.3 g, 400 mmol) in CH_2Cl_2 (200 ml) at $0\text{--}4^\circ$ was added within 13 min AcCl (28.4 ml, 400 mmol), and the mixture was stirred at 4° until the AlCl_3 was dissolved (5 min). A soln. of 26 (16.2 g, 79.6 mol) in CH_2Cl_2 (100 ml) was added dropwise during 15 min, while maintaining the temp. at ca. 4° , and the mixture was stirred at ca. 4° during 1 h. The mixture was added to $\text{CH}_2\text{Cl}_2/\text{brine}/\text{ice}$, the org. phase washed with brine (2 \times), sat. aq. NaHCO_3 soln., and brine, dried (Na_2SO_4),

and evaporated to a green oil (18.2 g). Bulb-to-bulb distillation (oven temp. 145 → 200°/0.4 mbar) gave **27** (17.5, 89%; purity 96%). Yellow liquid. IR: 2950, 2920, 2830, 1730, 1670, 1600, 1565, 1420, 1355, 1275, 1235, 1040, 825. ¹H-NMR: 7.78 (s, 1 H); 7.76 (d, *J* = 8, 1 H); 7.25 (d, *J* = 8, 1 H); 2.98 (d, *J* = 16, 2 H); 2.73 (d, *J* = 16, 2 H); 2.58 (s, 3 H); 2.06 (s, 3 H); 1.18 (s, 3 H). ¹³C-NMR: 198.0 (s); 171.2 (s); 148.2 (s); 142.8 (s); 136.1 (s); 127.2 (d); 124.8 (d); 124.7 (d); 70.9 (t); 43.6 (s); 43.1 (t); 42.7 (t); 26.7 (q); 24.2 (q); 20.8 (q). MS: 248 (6, *M*⁺), 186 (33), 171 (76), 157 (7), 143 (22), 128 (26), 115 (13), 91 (3), 77 (5), 63 (3), 51 (3), 43 (100), 39 (2).

(±)-2-Methylindane-2,5-dimethanol (= (±)-2,3-Dihydro-2-methyl-1H-indene-2,5-dimethanol; **28**). To stirred bleach (13–14% aq. NaOCl soln.; 34 ml, 59 mmol) at 55° was added a soln. of **27** (4.88 g, purity 95%, 19.8 mmol) in dioxane (40 ml); the reaction was exothermic (temp. → 75°) and the mixture became a cloudy emulsion. After 16 h at ca. 64°, the cooled mixture was poured on Et₂O/sat. aq. NaHSO₃ soln./ice water. The aq. phase was further acidified with 10% aq. HCl soln. in the presence of Et₂O, and the combined org. phase was washed with brine (3×), dried (Na₂SO₄), and evaporated crude intermediate hydroxy acid (5.72 g), which was used as such for the next step.

To a stirred suspension of LiAlH₄ (2.62 g, 69 mmol) in THF (67 ml) at r.t. was added dropwise within 15 min a soln. of the crude hydroxy acid (5.72 g) in THF (50 ml), and the mixture was heated to reflux (64°) during 16 h. The mixture was cooled to 4°, 10% aq. NaOH soln. (13.1 ml) added cautiously, the mixture stirred during 1 h (→ r.t.), Na₂SO₄ added, and the mixture filtered and evaporated. Flash column chromatography (SiO₂ (200 g), Et₂O/cyclohexane 9:1) gave **28** (2.83 g, 72%; purity 96%). Colorless syrup. IR: 3300 (br.), 2950, 2850, 1485, 1430, 1365, 1030, 820. ¹H-NMR: 7.14 (s, 1 H); 7.12 (d, *J* = 8, 1 H); 7.08 (d, *J* = 8, 1 H); 4.58 (s, 2 H); 3.46 (s, 2 H); 2.87 (d, *J* = 16, 2 H); 2.60 (d, *J* = 16, 2 H); 2.36 (br. s, OH); 2.18 (br. s, OH); 1.14 (s, 3 H). ¹³C-NMR: 143.0 (s); 142.1 (s); 139.0 (s); 125.4 (d); 124.8 (d); 123.8 (d); 70.2 (t); 65.2 (t); 45.1 (s); 42.6 (t); 42.4 (t); 24.0 (q). MS: 192 (49, *M*⁺), 174 (14), 159 (19), 143 (52), 129 (100), 115 (38), 105 (15), 91 (49), 77 (16), 65 (8), 63 (7), 51 (8), 39 (11), 31 (25).

(±)-2,5-Dimethylindane-2-methanol (= (±)-2,3-Dihydro-2,5-dimethyl-1H-indene-2-methanol; **29**). According to the *G.P.A.* with **28** (1.68 g, purity 98%, 8.7 mmol). Bulb-to-bulb distillation (oven temp. → 135°/0.2 mbar) afforded **29** (1.40 g, 91%; purity 99%). Colorless oil. IR (neat): 3330 (br.), 2910, 1485, 1035, 810. ¹H-NMR (360 MHz, CDCl₃): 7.04 (d, *J* = 8, 1 H); 6.98 (br. s, 1 H); 6.93 (br. d, *J* = 8, 1 H); 3.49 (s, 2 H); 2.87 (d, *J* = 16, 1 H); 2.85 (d, *J* = 16, 1 H); 2.60 (d, *J* = 16, 2 H); 2.30 (s, 3 H); 1.80 (s, OH); 1.16 (s, 3 H). ¹³C-NMR (90.5 MHz, CDCl₃): 142.6 (s); 139.4 (s); 135.8 (s); 127.0 (d); 125.5 (d); 124.5 (d); 70.5 (t); 45.0 (s); 42.7 (t); 42.4 (t); 24.0 (q); 21.2 (q). MS: 176 (33, *M*⁺), 158 (11), 143 (100), 128 (35), 115 (21), 105 (21), 105 (11), 91 (11), 77 (8), 51 (6), 39 (7), 31 (15).

(±)-2,5-Dimethylindane-2-carboxaldehyde (= (±)-2,3-Dihydro-2,5-dimethyl-1H-indene-2-carboxaldehyde; **11**). According to the *G.P.B.* with **29** (0.65 g, purity 99%, 3.7 mmol). Bulb-to-bulb distillation (oven temp. 65°/0.2 mbar) afforded **11** (0.62 g, 92%; purity 95%). Colorless oil. IR: 3000, 2950, 2920, 2820, 2690, 1720, 1485, 1450, 1430, 810. ¹H-NMR: 9.63 (s, 1 H); 7.07 (d, *J* = 8, 1 H); 7.02 (br. s, 1 H); 6.97 (br. d, *J* = 8, 1 H); 3.31 (d, *J* = 16, 1 H); 3.29 (d, *J* = 16, 1 H); 2.71 (d, *J* = 16, 2 H); 2.31 (s, 3 H); 1.28 (s, 3 H). ¹³C-NMR: 204.0 (d); 141.1 (s); 137.8 (s); 136.4 (s); 127.6 (d); 125.4 (d); 124.4 (d); 54.4 (s); 40.7 (t); 40.5 (t); 21.2 (q); 20.9 (q). MS: 174 (47, *M*⁺), 159 (100), 145 (25), 130 (36), 128 (37), 115 (36), 105 (16), 91 (15), 77 (13), 65 (6), 63 (9), 51 (12), 39 (13), 29 (18).

(±)-(5-Ethyl-2-methylindan-2-yl)methyl Acetate (= (±)-5-Ethyl-2,3-dihydro-2-methyl-1H-indene-2-methanol Acetate; **30**). According to the *G.P.A.* with **27** (6.1 g, purity 96%, 23.8 mmol). Bulb-to-bulb distillation (oven temp. 130°/0.4 mbar) afforded **30** (5.70 g, 99%; purity 96%). Colorless liquid. IR: 3000, 2950, 2920, 2820, 1730, 1480, 1450, 1430, 1380, 1365, 1235, 1035, 820. ¹H-NMR: 7.07 (d, *J* = 8, 1 H); 7.00 (br. s, 1 H); 6.97 (br. d, *J* = 8, 1 H); 2.91 (d, *J* = 16, 1 H); 2.89 (d, *J* = 16, 1 H); 2.65 (d, *J* = 16, 1 H); 2.64 (d, *J* = 16, 1 H); 2.60 (q, *J* = 7, 2 H); 2.04 (s, 3 H); 1.21 (t, *J* = 7, 3 H); 1.17 (s, 3 H). ¹³C-NMR: 171.3 (s); 142.5 (s); 142.2 (s); 139.3 (s); 126.0 (d); 124.6 (d); 124.3 (d); 71.3 (t); 43.3 (t); 43.0 (s); 42.7 (t); 28.7 (t); 24.3 (q); 20.9 (q); 15.9 (q). MS: 232 (7, *M*⁺), 172 (50), 157 (100), 143 (79), 129 (65), 115 (23), 91 (14), 77 (7), 65 (3), 63 (3), 51 (4), 43 (63), 39 (5).

(±)-5-Ethyl-2-methylindane-2-methanol (= (±)-5-Ethyl-2,3-dihydro-2-methyl-1H-indene-2-methanol; **31**). To a stirred suspension of LiAlH₄ (1.35 g, 35.6 mmol) in Et₂O (30 ml) at r.t. was added dropwise a soln. of **30** (5.50 g, purity 96%, 23.7 mmol) in Et₂O (50 ml), and the mixture was stirred during 1 h. The mixture was cooled to 4°, 10% aq. NaOH soln. (6.8 ml) was added cautiously, and the mixture was stirred during 1 h (→ r.t.). Na₂SO₄ was added and the mixture filtered and evaporated to a colorless oil (4.8 g). Bulb-to-bulb distillation (oven temp. 100–140°/0.3 mbar) gave **31** (4.49 g, 99%; purity 99%). Colorless oil. IR: 3330 (br.), 3000, 2960, 2920, 2860, 2820, 1485, 1450, 1430, 1370, 1035, 820. ¹H-NMR: 7.07 (d, *J* = 8, 1 H); 7.00 (br. s, 1 H); 6.96 (br. d, *J* = 8, 1 H); 3.49 (s, 2 H); 2.87 (d, *J* = 16, 1 H); 2.85 (d, *J* = 16, 1 H); 2.62 (d, *J* = 16, 1 H); 2.61 (d, *J* = 16, 1 H); 2.60

(*q*, *J* = 7, 2 Hz); 1.83 (br. *s*, OH); 1.21 (*t*, *J* = 7, 3 Hz); 1.16 (*s*, 3 H). ¹³C-NMR: 142.7 (*s*); 142.4 (*s*); 139.7 (*s*); 125.9 (*d*); 124.6 (*d*); 124.3 (*d*); 70.6 (*t*); 45.0 (*s*); 42.7 (*t*); 42.4 (*t*); 28.7 (*t*); 24.1 (*q*); 15.9 (*q*). MS: 190 (55, *M*⁺), 172 (18), 157 (100), 143 (80), 129 (80), 115 (44), 91 (30), 77 (13), 65 (7), 63 (7), 51 (8), 39 (10), 31 (21).

(±)-5-Ethyl-2-methylindane-2-carboxaldehyde (= (±)-5-Ethyl-2,3-dihydro-2-methyl-1H-indene-2-carboxaldehyde; 12). According to the *G.P.B.* with 31 (3.49 g, 18.4 mmol). Bulb-to-bulb distillation (oven temp. 90–125°/0.4 mbar) afforded 12 (3.31 g, 91%; purity 95%). Colorless oil. IR: 3000, 2960, 2920, 2860, 2820, 2690, 1720, 1485, 1445, 1430, 880, 820. ¹H-NMR: 9.62 (*s*, 1 H); 7.09 (*d*, *J* = 8, 1 H); 7.03 (br. *s*, 1 H); 6.98 (br. *d*, *J* = 8, 1 H); 3.32 (*d*, *J* = 16, 1 H); 3.30 (*d*, *J* = 16, 1 H); 2.72 (*d*, *J* = 16, 1 H); 2.71 (*d*, *J* = 16, 1 H); 2.60 (*q*, *J* = 7, 2 H); 1.27 (*s*, 3 H); 1.21 (*t*, *J* = 7, 3 H). ¹³C-NMR: 204.0 (*d*); 143.0 (*s*); 141.1 (*s*); 138.1 (*s*); 126.5 (*d*); 124.5 (*d*); 124.1 (*d*); 54.4 (*s*); 40.8 (*t*); 40.5 (*t*); 28.7 (*t*); 20.9 (*q*); 15.8 (*q*). MS: 188 (56, *M*⁺), 173 (100), 159 (49), 145 (47), 129 (62), 115 (46), 91 (30), 77 (16), 63 (11), 51 (12), 39 (13), 29 (18).

(±)-2-(2-(Hydroxymethyl)-2-methylindan-5-yl)-propan-2-ol (= (±)-2,3-Dihydro-α,α',2-trimethyl-1H-indene-2,5-dimethanol; 32). A stirred 22% MeMgCl soln. in THF (32 ml, 95 mmol; *Fluka*) at r.t. was diluted with THF (100 ml), and a soln. of 27 (5.87 g, purity 95%, 23.8 mmol) in THF (30 ml) was added dropwise during 10 min (exothermic: temp. → 51°). The mixture was heated to 60° during 1.5 h, cooled, and poured on Et₂O sat. aq. NH₄Cl soln. ice. The org. phase was washed with sat. aq. NaHCO₃ soln. and brine, dried (Na₂SO₄), and evaporated to a cloudy oil which solidified on standing. Crystallization from CH₂Cl₂ at 0° gave 32 (4.08 g, 76%; purity 98%). M.p. 122.5–123°. IR (solid): 3264, 2970, 2925, 2860, 1465, 1416, 1360, 1258, 1151, 1030, 956, 911, 841, 820. ¹H-NMR ((D₆)acetone): 7.32 (br. *s*, 1 H); 7.25 (br. *d*, *J* = 8, 1 H); 7.05 (*d*, *J* = 8, 1 H); 3.84 (*m*, 2 OH); 3.42 (*d*, *J* = 6, 2 H); 2.93 (*d*, *J* = 16, 1 H); 2.90 (*d*, *J* = 16, 1 H); 2.55 (*d*, *J* = 16, 1 H); 2.53 (*d*, *J* = 16, 1 H); 1.48 (*s*, 6 H); 1.13 (*s*, 3 H). ¹³C-NMR: ((D₆)acetone): 149.4 (*s*); 142.3 (*s*); 141.3 (*s*); 124.7 (*d*); 123.3 (*d*); 121.8 (*d*); 72.0 (*s*); 69.9 (*t*); 46.0 (*s*); 43.4 (*t*); 42.9 (*t*); 32.6 (2*q*); 24.6 (*q*). MS: 220 (8, *M*⁺), 205 (45), 202 (4), 145 (17), 128 (13), 115 (11), 91 (8), 59 (12), 43 (100), 31 (9).

(±)-5-Isopropyl-2-methylindane-2-methanol (= (±)-2,3-Dihydro-5-isopropyl-2-methyl-1H-indene-2-methanol; 33). According to the *G.P.A.* with 32 (4.08 g, purity 98%, 23.8 mmol). Bulb-to-bulb distillation (oven temp. 125–160°/0.5 mbar) afforded 33 (3.56 g, 94%; purity > 99%). Colorless oil. IR: 3330 (br.), 2960, 2920, 2860, 1485, 1455, 1430, 1375, 1035, 820. ¹H-NMR: 7.07 (*d*, *J* = 8, 1 H); 7.02 (br. *s*, 1 H); 6.98 (br. *d*, *J* = 8, 1 H); 3.48 (*s*, 2 H); 2.88 (*d*, *J* = 16, 1 H); 2.85 (*d*, *J* = 16, 1 H); 2.85 (*sept.*, *J* = 7, 1 H); 2.62 (*d*, *J* = 16, 1 H); 2.60 (*d*, *J* = 16, 1 H); 2.00 (*s*, OH); 1.23 (*d*, *J* = 7, 6 H); 1.16 (*s*, 3 H). ¹³C-NMR: 147.1 (*s*); 142.6 (*s*); 139.8 (*s*); 124.5 (*d*); 124.4 (*d*); 122.8 (*d*); 70.5 (*t*); 45.0 (*s*); 42.8 (*t*); 42.4 (*t*); 33.9 (*d*); 24.2 (2*q*); 24.1 (*q*). MS: 204 (49, *M*⁺), 189 (33), 171 (100), 157 (21), 143 (62), 129 (70), 115 (36), 91 (30), 77 (13), 65 (7), 63 (6), 51 (6), 43 (25), 41 (15), 39 (10), 31 (19).

(±)-5-Isopropyl-2-methylindane-2-carboxaldehyde (= (±)-2,3-Dihydro-5-isopropyl-2-methyl-1H-indene-2-carboxaldehyde; 13). According to *G.P.B.* with 36 (2.41 g, 11.8 mmol). Bulb-to-bulb distillation (oven temp. 85–145°/0.2 mbar) gave 13 (2.26 g, 93%; purity 98%). Colorless oil. IR: 2950, 2920, 2850, 2690, 1720, 1485, 1450, 1425, 880, 820. ¹H-NMR: 9.63 (*s*, 1 H); 7.10 (*d*, *J* = 8, 1 H); 7.07 (br. *s*, 1 H); 7.02 (br. *d*, *J* = 8, 1 H); 3.33 (*d*, *J* = 16, 1 H); 3.31 (*d*, *J* = 16, 1 H); 2.87 (*sept.*, *J* = 7, 1 H); 2.73 (*d*, *J* = 16, 1 H); 2.71 (*d*, *J* = 16, 1 H); 1.29 (*s*, 3 H); 1.22 (*d*, *J* = 7, 6 H). ¹³C-NMR: 204.0 (*d*); 147.7 (*s*); 141.1 (*s*); 125.1 (*d*); 124.5 (*d*); 122.7 (*d*); 54.3 (*s*); 40.9 (*t*); 40.6 (*t*); 34.0 (*d*); 24.2 (2*q*); 21.0 (*q*). MS: 202 (66, *M*⁺), 187 (99), 159 (61), 145 (100), 143 (64), 131 (60), 128 (61), 115 (51), 91 (36), 77 (19), 65 (10), 63 (10), 51 (11), 43 (36), 41 (19), 49 (15), 29 (15).

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